S
629.130
A5N

3 0864 1006 7615 7

News Letter

FRANK W. WILEY, DIRECTOR

COMMISSION MEMBERS:
E. B. Cogswell, Chairman
Harold DeSilva, Vice-Chairman
H. M. Hendrickson, Secretary
H. L. Cummings
Charles Lynch
Alfred Klingler
Clarence Anthony

Published by
MONTANA AERONAUTICS COMMISSION
P. O. Box 1698 Helena, Montana

Member of
National Association of State Aviation Officials

Vol. 11—No. 1 Jan. - Feb., 1960

NEW REQUIREMENTS FOR PRIVATE AND COMMERCIAL PILOTS CERTIFICATES

The Federal Aviation Agency said today its new requirements for private and commercial pilot certificates do not mean pilots in these categories will need to secure instrument ratings.

FAA officials emphasized that the training required by the new rule conveys no instrument flying privileges. To engage in instrument operations, a pilot must hold an instrument rating and the airplane must be equipped for IFR operations as prescribed by Part 43 of the Civil Air Regulations.

The FAA also emphasized the new rules are not retroactive and will affect only those private and commercial pilots who secure their certificates on or after March 16, 1960.

Under the new regulations, contained in amendments to Part 20 of the Civil Air Regulations, applicants for commercial pilot certificates will be required to have a minimum of ten hours of instrument flight instruction. They must also demonstrate their ability to manually control their aircraft solely by the use of instruments.

Also added to the skill requirements for the commercial pilot's certificate is the necessity to demonstrate a VFR planned cross-country flight.

Applicants for private pilot certificates will be required to have dual instruction in the basic control of the aircraft by use of instruments.

The new rule does not specify the number of hours of instruction, but it does require that the applicant demonstrate to an FAA Inspector or designated flight examiner his emergency manual capability in attitude control simulating the loss of visual reference during flight.

In addition, both categories of applicants must be familiar with and demonstrate the use of radio for communications and navigation in cross-country flying.

YOU A BUSINESSMAN?—HOW ABOUT AN AIRPLANE?—COST?

Suppose you could use an airplane to very good advantage in your business? And suppose you think you cannot afford it? Ever investigate the tax angle? For instance, the Internal Revenue people allow you to use a system of "declining balance," whereby depreciation can be taken at the rate of 40% the first year and during the succeeding years, annual depreciation is computed at 40% of the undepreciated balance (remaining value of the airplane) until the undepreciated balance equals the residual value. This mehtod permits more rapid depreciation during the early years of aircraft ownership.

This is just one of several methods used in tax savings on aircraft purchases. They all add up to something like this: the original purchase price, say, is $25,300. After a five-year period of deduction in tax savings combined with book value, the ultimate cost to the business would only be $9,715.

Any of the aircraft representatives in this state can furnish you with detailed information. Interested? See your nearest Beech, Piper, Cessna dealer, or whatever make you may think about.

PILOT REGISTRATION

REGISTRATION FOR 1960 IS NOW DUE FOR ALL MONTANA PILOTS. FOR YOUR CONVENIENCE A REGISTRATION CARD IS ENCLOSED WITH THIS ISSUE OF THE NEWSLETTER. PLEASE NOTE THAT AGRICULTURAL PILOTS MAY REGISTER ON THE SAME CARD. IF ADDITIONAL CARDS ARE NEEDED, CONTACT YOUR LOCL OPERATOR OR WRITE TO THE MONTANA AERONAUTICS COMMISSION, P.O. BOX 1698, HELENA, MONTANA.

AIR SEARCH AND RESCUE SEMINAR

One hundred fifteen persons representing fifteen State and Federal agencies attended a Seminar held at Malmstrom Air Force Base, Great Falls, Montana, on January 19, 20, and 21, 1960. This Seminar was conducted as a joint venture between the Montana Aeronautics Commission and the United States Air Force, and led by Frank Wiley, Director of Aeronautics of the Montana Areonautics Commission.

The purpose of the Seminar was to coordinate search and rescue work of various civil, Federal and military agencies concerned with air search and rescue operations. This Seminar was the first of a series to be conducted by other states in the Western area of the United States.

Civil aircraft search and rescue operations are directed by the Montana Aeronautics Commission by the coordination of available agencies through a search and rescue organization which includes 14 search and rescue districts with a District Coordinator directing air search operations in each district. These search and rescue Coordinators are experienced pilots and flight operators familiar with their respective areas and familiar with the capabilities of the pilots in those areas. Operations are conducted on a volunteer basis with the Montana Aeronautics Commission financing the cost of gasoline and oil used in aircraft, telephone calls and the cost of special search and rescue equipment.

The capability for air search operations in Montana is based on the 1,600 civil airplanes owned within the State, plus an increasingly substantial number of National Guard Liaison type aircraft and helicopters. The 1959 MAC listings of volunteer help include 502 pilots and 304 aircraft.

The Director of the Montana Aeronautics Commissions is the Deputy State Director of Civil Defense for Aviation, and the Montana Aeronautics Commission aircraft search and rescue organization is the Aviation Civil Defense Organization for the State, a part of, and affiliated with, the State Civil Defense Plan under the direction of the State Director of Civil Defense.

Specialized equipment has been procured for search and rescue and civil defense operations financed in part by Federal Civil Defense Administration funds and in part by Montana Aeronautics Commission funds. This special equipment includes unicom radios operating on frequencies of 122.8 and 121.5 and with 27 units installed in various Montana communities for the purpose of air-to-ground communications. Other special equipment includes surplus equipment released by the Military services, which has been procured for use in carrying out operations pertaining to lost aircraft.

Aircraft search and rescue operations in Montana may be divided into two categories including operations related to incidents involving MILITARY AIRCRAFT and operations related to incidents involving CIVILIAN AIRCRAFT.

The Montana Aeronautics Commission is responsible for search and rescue operations pertaining to CIVIL AIRCRAFT within the State of Montana and the 4th Air Force of the United States Air Force is responsible for search and rescue operations pertaining to incidents involving MILITARY AIRCRAFT within the nine western States.

A cooperative agreement between the Montana Aeronautics Commission and the 4th Air Force provides operational procedures wherein these responsibilities are designated with an agreement of mutual aid between these two Federal and State Agencies responsible for the direction of aircraft search and rescue in Montana.

NATIONAL ASSOCIATION OF STATE AVIATION OFFICIALS

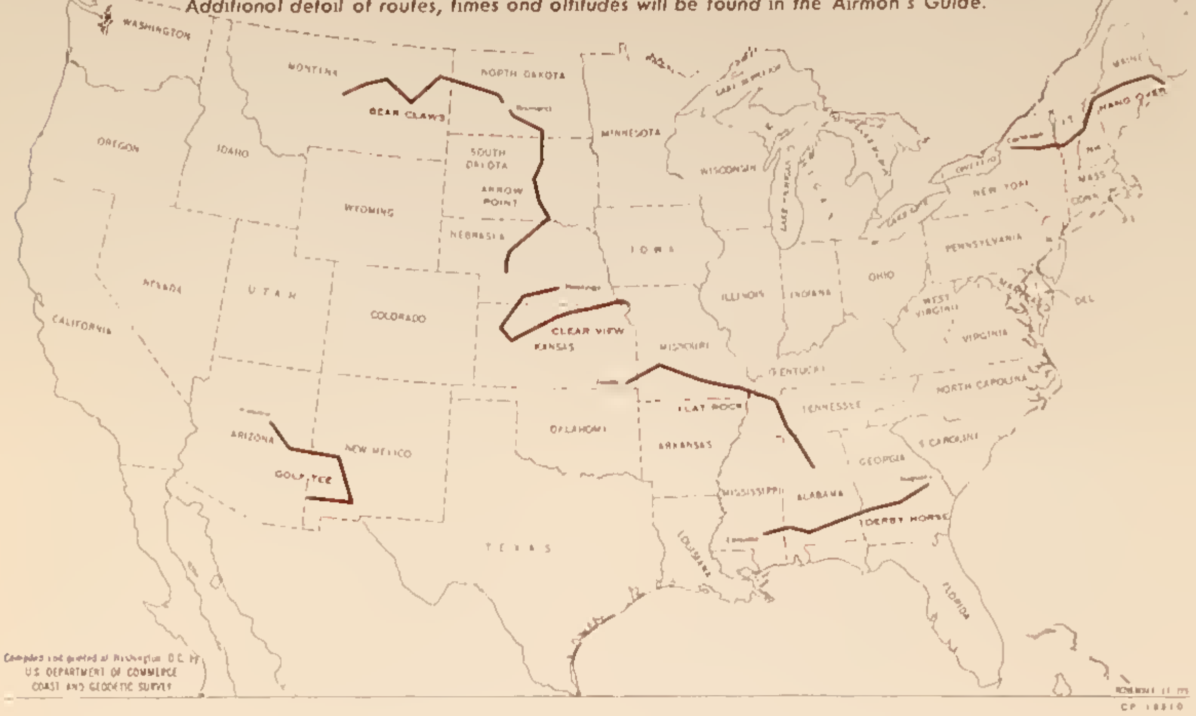
PURPOSE:—"**To foster aviation as an industry**, as a mode of transportation for persons and property and as an arm of the national defense; to join with the Federal Government and other groups in **research, development, and advancement of aviation**; to develop uniform aviation laws and regulations; and to otherwise encourage co-operation and mutual aid among the several states."

SPECIAL NOTICE

UNITED STATES

OIL BURNER

Effective November 23, 1959 SAC will operate low level missions over routes shown. Additional detail of routes, times and altitudes will be found in the Airman's Guide.



NEW "OIL BURNER" ROUTES ANNOUNCED BY STRATEGIC AIR COMMAND AND FEDERAL AVIATION AGENCY

Presidential approval has recently been given to a new system for training USAF crews in low level simulated bombing missions throughout the U.S. These "Oil Burner" routes, as they are appropriately designated, have been implemented in order to provide fixed and prearranged schedules (which are published in the Airman's Guide) for increased safety to all concerned. The flights will be operated for the most part in sparsely populated areas and will consist of radar bomb runs over simulated targets throughout the country . . This type low level training mission is required by SAC in order to perfect an approach system underneath radar coverage, to arrive at its target undetected. The plan of operation calls for flights over the designated routes and at minimum altitudes of at least 1,000 feet above obstructions to the end of the route where they will "pop-up" to a higher altitude for their radar "bombing" of the target.

Effective November 23, 1959, the USAF commenced conducting these low level navigation flights with B-47's and B-52's in both IFR and VFR conditions within ten statute miles either side of the designated routes and altitudes. These flights, which could be as frequent as every fifteen minutes, are each filed on an IFR flight plan during eight-hour operational periods; 6:00 AM CST to 2:00 PM CST and 9:00 PM CST to 5:00 AM CST Mondays through Fridays inclusive. Although the USAF will be given priority at the routes and altitudes prescribed (in control areas) other IFR traffic will proceed according to ATC clearances as before. However, pilots making VFR flights in the "oil burner" areas should avail themselves of pertinent route and altitude information in order to be prepared for the fast moving bombers and the severe wake or vortex turbulence which they create.

Contrary to some information given, the areas involved and shown by the SAC aircraft are not prohibited or restricted but rather should be considered as areas in which flights are being made by the USAF under both IFR and VFR conditions, very comparable to normal "caution" areas. As always, in VFR conditions, the familiar adage "see and be seen" applies.

Flights are normally scheduled 24 hours in advance and if any of them are suspended, ATC will be notified by the USAF; of course, constant communication is maintained so that any flight could be rerouted in an emergency. Each flight will be at least 1,000 feet above the ground with a constant airspeed (IAS) of 280 knots (322 mph). Navigation for the aircraft to be used will include radar for the B-47's, doppler for the B-52's and an automatic combination of both for the B-52G's.

As these "oil burner" missions are on an IFR flight plan basis, the routes will be shown on Jeppesen, and Coast and Geodetic Instrument Charts; but, because of the complications involved, it is virtually impossible to indicate these routes on sectional or WAC charts. For the safety of all concerned, then, it is suggested that each pilot and airport operator post the "oil burner" route chart and indicate on other navigational maps the pertinent areas affected.

FLIGHT SAFETY

In looking at the Private Flying Safety records to determine the area or areas where effort expended would bring the greatest immediate result, we see that weather was listed as a cause factor in 40% of all accidents; and 25% of fatal accidents are caused by contact pilots continuing into marginal weather.

PART 507—AIRWORTHINESS DIRECTIVE CESSNA MODEL 150 AIRCRAFT

There have been a large number of exhaust gas cabin air heater failures on Cessna 150 aircraft. Such failures create the danger of contaminating the heated air to the cabin with carbon monoxide. It is necessary in the interest of safety to require corrective action.

In view of the foregoing, the Administrator found that a situation existed requiring immediate action in the interest of safety, that notice and public procedure thereon were impracticable and contrary to the public interest, and that good cause existed for taking immediate corrective action Accordingly, an air-worthiness directive was issued on December 8, 1959, requiring compliance with the provisions of the directive no later than December 15, 1959, by all persons receiving prior notice therof. It is hereby published as an amendment to Paragraph 507.10(a) (14 CFR Part 507) and shall become effective upon the date of its publication in the Federal Register as to all other persons:

Cessna: Applies to Model 150 aircraft Serial numbers 17000 through 17622. Compliance required not later than December 15, 1959 for those persons who received actual notice prior thereto. Compliance date as to all other persons is within 7 days following date of publication in the Federal Register.

A large number of failures in the exhaust gas cabin air heater P/N's 0450338-8 and 0450338-40 weld assembly muffler right hand have occurred in service. In one case the pilot possibly experienced carbon monoxide poisoning during flight. To minimize the failure of the exhaust gas cabin air heater muffler and the possibility of carbon monoxide poisoning the following modification is to be performed unless already accomplished.

(a) Airplane Serial Number 17000 through 17144. Replace exhaust gas cabin air heater muffler with weld assembly P/N 0450338-50 right hand.

(b) Airplane Serial Numbers 17145 through 17622. Replace exhaust gas cabin air heater muffler with stack subassembly P/N 0450338-54 right hand.

(Cessna Service Letter 150-11 dated September 21, 1959 pertains to this same modification.

INFORMATION WANTED

Information wanted on the whereabouts of Luscombe 8A, N-1571-K, Serial 4298. Last known color was dark maroon with paint chipping. Owned by Everett E Woodrow. Reported to have skipped obligation covering loan on aircraft. Craft was reported to have been in St Louis in late summer, 1959—also had repair work done in Miles City, Montana, and reported might be in Casper, Wyoming, area. Please report to Idaho Department of Aeronautics, 3103 Airport Way, Boise, Idaho.

UNITED STATES SEARCH AND RESCUE FREQUENCIES

VHF frequency 121.6mc. has been designated for United States national use for air-to-air, air-to-ground, and ground-to-air communications between aircraft participating in search and rescue operations and aeronautical search and rescue mobile stations The addition of VHF frequency 121.6 to the Joint and Combined frequencies 138.78 and 282.8mc. will now permit communications between civil search and rescue agencies as well as civil-military and military agencies.

It is requested that the frequencies allotted for SAR use not be used for training missions or any other purpose except actual SAR missions. The determination of the particular frequency to be used, i.e., 121.6, 138.78 or 282.8mcs. will be directed by the mission controller for the specific SAR mission he is controlling.

FROM THE AIRPORT DIVISION

Airport construction or improvement projects are underway at several locations in Montana. All pilots are urged to use caution while operating on or around these airports:

MALTA: A new paved runway under construction

DILLON: A new paved runway under construction

CHESTER: A new paved runway under construction.

SUPERIOR: A new airport under construction—the old airport will be continued in operation until the new one is complete.

WHITE SULPHUR: A new turf surfaced runway under construction.

CANYON FERRY: A new turf surfaced runway under construction.

TIBER DAM: A new turf surfaced runway under construction.

BABB: A new turf surface runway under construction.

Plans have been completed for new runway construction projects at Conrad, Scobey, Kalispell, Red Lodge, Bridger and Columbus.

Plans are underway for new runway construction at Helena, Bozeman and Lincoln.

* * *

Pilots flying the Swan Valley route between Seeley Lake and Kalispell are requested to give position reports to the unicom station (122.8 mc) located at the Condon Ranger Station. In the event there is an emergency, it would help pinpoint your location. The station personnel will welcome your call.

* * *

THE AIRPORT DIVISION NOW HAS A GOOD STOCK OF 24" STANDARD WINDSOCKS AVAILABLE FOR IMMEDIATE DELIVERY. THESE WINDSOCKS WILL BE SHIPPED PREPAID AT $8.00 EACH.

* * *

Curt Fly, who has a private airport between Billings and Hardin, recently purchased a new Commission windsock. Curt reports that about two hours after getting the sock installed, a pilot lost in a bad snow storm spotted his airport by the windsock and proceeded to land. The pilot stated that he was about to land in the first open field, but that the sight of a windsock indicated to him that with a little more effort he could make an effective safe landing on a prepared runway.

Last summer a pilot was attempting to fly a glider non-stop from Wenatchee, Washington to Helena, Montana and doing a pretty good job until he ran out of air over "Elliott Field" at Rock Creek, Montana, which is about twenty miles east of Missoula. When the pilot was about resigned to making a highway or a small field landing he spotted the Elliot Field windsock. This pilot claims that nothing looked better to him and that he couldn't get down fast enough.

When making cross country trips, a flying windsock will be the best indication you have of locating a prepared landing area as well as giving you the added safety factor of knowing which way the ground wind blows.

AIRSTRIPS ON SOIL BANK

The North Dakota Aeronautics Commission is in receipt of a letter from the State Agricultural Stabilization and Conservation office relating to use of Soil Bank for airport purposes. We quote directly from their letter.

"We have now been advised that designated Conservation Reserve acreage may be used for the landing of light aircraft and that such use will not be considered as a violation of the contract for unauthorized use of the Conservation Reserve, if the farmer maintains control of the land and does not receive reimbursement for allowing the aircraft to land on the designated acreage and if such landing of the aircraft does not destroy the conservation use.

We have been further advised, however, that if action is taken which might be considered as commercializing, such as a use that would reasonably result in compensation to the farmer or pilots of the aircraft, and any extensive building of towers and hangers, such cases must be referred through this office for review.

If the landing of aircraft on Conservation Reserve acreage results in the destruction of the conservation use, such shall be considered as a violation of the Conservation Reserve contract.

We are advising county ASC offices of the above opinion.

NOTICE

The Texas Company has just completed installation of two new Serve-A-Plane units at Boles Aviation Service, Hardin, Montana. Both 80 and 100 Octane Aviation Fuel are available.

Wymondak Helio Distributors, now located on the new Sher-wood Airport at Plentywood, have been appointed distributors for the Helio Aircraft Corporation of Norwood, Massachusetts. They have under construction a new hangar and office at the Plentywood Airport from which they plan to sell and service the new Helio Super Courier. They will also have transient aircraft hangar space, fuel and service facilities available when their construction program is complete.

The Aviation fuel facilities on the Lewistown Airport have been recently changed—80/87 and 100 octanes are now available.

* * *

SCOTT STANLEY, PRESIDENT OF THE MONTANA PILOTS ASSOCIATION HAS REQUESTED THAT ALL ORGANIZED HANGARS COLLECT THEIR 1960 DUES DIRECTLY FROM MEMBERS. ALL MEMBERS AT LARGE SEND THEIR DUES OR INQUIRIES TO SCOTT AT P. O. BOX 1172, GREAT FALLS, MONTANA.

FROM THE AIRPORT OPERATORS REPORT

Transient aircraft crews and passengers spend money, according to a recent survey. Tucson (Arizona) Airport authority recently released a transient aircraft study that would bear a lot of scrutiny. Based on returns from questionnaires circulated among crews and passengers of transient aircraft that landed at Tucson Municipal over a period of ten years, the study is a valid analysis of **airport** and **non-airport** revenue left in the Tucson area by the transients

Over the period May 1, 1949 to April 30, 1959, a little more than 4,600 survey cards were executed and returned to the airport by crew members or passengers on the aircraft surveyed, and data acquired included such things as: last stop before Tucson; next stop after Tucson; and how much money was spent at the airport (or in town), and for what

Items listed on the cards under expenditures included: aircraft service, transportation, lodging, meals, entertainment, merchandise and medical. Oddly enough, expenditures for medical services in the area by the transients (34 of them) averaged $75.62 for each person seeking that service. Total revenue realized from the transient aircraft during the 120-month period was estimated conservatively at $5,644,578, or a very tidy $47,000 per month.

Largest bite was taken by the airport itself, where $2,984,109 was collected for aircraft services. Local transportation accounted $336,195 (taxis, rent-a-car, etc.). Hotel and dude ranch operators got $656,497, and cafes and restaurants took in $656,901. Theatres, night clubs, bars and sporting events accounted for another $320,418, and general merchants shared in the revenue to the extent of $665,443.

Based on the assumption that since only half of the total number of cards distributed came back to the field, the Airport Authority feels that the figure for aircraft services might well reach $6,000,000. An interesting feature of the report, from Tucson's point of view especially, is that aircraft service revenue for the second five-year period was almost four times as great as income from the same source in the first five-year period.

This ten-year report is only the first in a continuing study of transient aircraft behavior at Tucson Municipal. Apart from determining the dollar value of transient and itinerant traffic at the field, the Airport Authority is conducting a continuing study of patterns and trends in aircraft activity.

One phrase lifted from the text of the report is the best possible sub-title for the work—"Any activity that demonstrably produces a harvest of approximately $1,500 each day—new dollars from beyond the Tucson trade area—is well worth studying."

* * *

Air Transport Association of America and American Petroleum Institute have brought to the attention of Airport Operators Report that the October 8 issue, lead story, neglected to include the information that the additional one-cent Federal tax on gasoline is refundable to non-highway users, including aviation. Thus, though the total Federal tax is four cents a gallon, aviation users are entitled to a refund of **two** cents per gallon.

* * *

AAAE advises airport managers to consider insurance clauses carefully when leases come up for renewal. The association lists several things to watch for when negotiating contracts and leases: (1) hold-harmless clauses, (2) insuring that the airport is named as co-insured in lessee's insurance policies, and (3) insuring that airport insurance policies include airline operations. Competition for airport insurance business might be stimulated by closely examining the extent of government immunity in some states, as well as the possible advantages of deductible policies.

GRAND CANYON AIRPORT RUNWAY LENGTHENED

Al Hudgin, owner and operator at the Grand Canyon Airport has announced that the NE/SW runway has been lengthened by 10,000 feet. It is believed that this is the longest privately owned runway in the world.

The Hudgin brothers have maintained an excellent airport at Grand Canyon and their facilities are a credit to aviation. All of these fine facilities have been made possible by sound planning and good business practices. Private flyers are welcome to use the facilities. Gas, minor maintenance and transportation are available at the airport.

BONANZA AIRLINES TO SERVE GRAND CANYON YEAR-ROUND

The C.A.B. in its order number 14711 of December 4, 1959 has authorized Bonanza Air Lines to serve Grand Canyon on a year round basis Formerly Grand Canyon was served on a seasonal basis between May 1 and October 31.

Service will be reinstated at Grand Canyon on Friday, December 10, through Flights 65 and 68.

M.A.T.A. CONVENTION

The Montana Aviation Trades Association held their 1960 annual convention in Bozeman on January 21, 22, and 23. One full day was devoted to an air agricultural school which was held in the agricultural auditorium of Montana State College. It was the general opinion of the members in attendance that this was one of the most successful conventions the M A.T.A. has scheduled. The newly elected Board of Directors for the coming year appears to be a good. hard working crew. Gene Mendel, Malta, President; Al Newby, Bozeman, Vice President; LeRoy Aspevig, Rudyard, Secretary-Treasurer; Jack Hughes, Missoula; John Nordhagen, Choteau; Bill Rogers, Lewistown; Carl Schirmer, Helena, members and Mrs. E. M. (Bitty) Herrin was appointed as Executive Secretary.

CUSTOMS AND IMMIGRATION INFORMATION FOR AIRCRAFT PILOTS DEPARTING FOR CANADA

PRIOR TO DEPARTURE: Outbound private aircraft carrying no cargo nor passengers for hire are not required to obtain U. S. Customs clearance nor file a State Department Temporary Sojourn Certificate for flights to Canada or Alaska. Your flight plan filed with F.A.A. should request Canadian Customs be notified of your estimated time of arrival at a Canadian port of entry.

Customs clearance is required for departing scheduled and non-scheduled flights; for aircraft being exported under their own power; and for aircraft carrying cargo, except that in cases where it is extremely difficult for an operator of a private aircraft carrying passengers for hire to Canadian points or departing for Canada in order to pick up passengers for hire at a Canadian point, may call a Customs port of entry by phone and obtain outward Clearance.

RETURN FLIGHT: You must notify the Collector of Customs at the international airport of entry where you expect to land. Your flight plan filed with the Canadian Department of Transport should request U. S. Customs notification, such notification to be at least one hour prior to your arrival. The notice must specify the type of aircraft, registration marks, name of aircraft commander, number of aliens and number of citizen passengers, and estimated time of arrival. Airports of entry in Montana are Great Falls, Cut Bank and Havre.

Scobey and Sweet Grass, Montana are the only ports in Montana having landing strips near the Customs office. Permission to land at Scobey may be secured by telephone from the Deputy Collector in Charge, and at Sweet Grass radio permission to land may be obtained. Porthill, Idaho, will grant landing permission to float planes. Landing facilities at ports in Montana and Idaho not named above are unavailable.

FORCED LANDINGS: Forced landings must be reported as soon as practicable to Customs at intended place of first landing or to the nearest Customs office. No merchandise or baggage may be removed nor any passengers or crew member allowed to depart without permission of a customs officer, except for safety or preservation of life purposes.

INSPECTION UPON RETURN: After landing, remain in or near your plane until contacted by the Customs or Immigration officer on duty. **ALL ARTICLES ACQUIRED ABROAD INCLUDING GIFTS AND ARTICLES TO FOLLOW MUST BE DECLARED TO CUSTOMS OFFICER AT TIME OF A PERSON'S ARRIVAL.**

PENALTIES: Failure to comply with aircraft reporting requirements is a violation of the law, punishable by **Fine** and Seizure.

OVERTIME CHARGES: Overtime charges are generally payable for after port hour inspections on weekdays and at any time on Sundays and holidays. Minimum rate is $10.44 and the maximum $55.84. These rates are pro-rated with other arrivals and departures. Refunds of excess charges are made after determination of the proper charge.

Alien permanent residents of the United States who have been absent from the United States for more than one year, must at time of applying for readmission to the United States present a valid unexpired re-entry permit, or returning resident's visa.

Alien temporary visitors to the United States must on their departure from this country surrender to Canadian Immigration or Customs officers any visitor's permit issued to them at time of their admission to the United States.

Procedure for Private Aircraft Carrying Passengers For Hire to Canadian Points or Departing for Canada to Pick Up Passengers for Hire

This Procedure Does not Apply to Aircraft Returning from Canada

The Bureau of Customs under date of December 15, 1958 has amended the aircraft regulations in cases where it is extremely difficult for an operator of a private aircraft carrying passengers for hire to Canadian points or departing for Canada in order to pick up passengers for hire at a Canadian point, to call at a Customs port of entry prior to departure and file clearance documents in person for the aircraft.

This new authority authorizes Collectors to approve the clearance of aircraft in such instances as cited above by telephone and accept the filing immediately by mail of the outward general declaration.

The above procedure is not applicable to aircraft exporting merchandise.

General declarations on Customs Form 7507 for such use may be obtained from this office (Collector of Customs, Great Falls, Montana) upon receipt of 75c for a pad of 100 forms.

During regular office hours—8:00 A. M., to 6:30 P. M., Monday through Friday, permission should be obtained by calling Glendale 3-7840 or 2-3578. After regular hours, on Saturdays, Sundays, or holidays, any one of the following officers may be contacted, except that charter flights originating in Great Falls should contact the regular officer on duty, whose name may be secured from F. A. A.:

W. J. Nixon, Collector of Customs, GL 2-1387,
A. W. Boetcher, Asst. Collector, GL 3-4060,
H. L. Swanson, Deputy Collector, GL 2-7874,
Wayne Teel, Inspector, GL 2-0422
Albert G. Engebretson, Inspector, GL 4-0668,
David S. Hannant, Inspector, GL 4-1060.

Regular hours at Cut Bank, Montana are 8 A. M. to 5 P. M., Monday through Saturday; contact Paul K. Davis, Inspector, WE 8-4352; after hours, Sundays and holidays call WE 8-4077.

Regular hours at Havre, Montana are 9:00 A. M., to 6:00 P. M., daily, including Sundays and holidays; October 1 through May 14; 9 A. M., to 10 P. M., May 15 through Sept. 30; office phone 588; after hours, Immigration officers:

John Vukelich, Phone 1918-R,
Arthur A. McAdams—Phone 2262-W.

For clearance at Sweet Grass, Montana, Phone FED 5-2101

For clearance of seaplanes at Porthill, Idaho, phone Andrew 7-7290

For clearance at Scobey, Montana, phone TR 3-2212.

U. S. pilots flying into Chilliwak and Cranbrook, British Columbia, are creating a problem by their failure to make arrangements for advance notification to Canadian customs. Custom notification at these airports cannot be obtained through information contained in their flight plan. It will be necessary for pilots to make their own advance customs arrangements at Chilliwak and Cranbrook.

NOTICE

EFFECTIVE JANUARY 1, 1960 ALL COMMERCIAL AGRICULTURAL AIRCRAFT REGISTERED WITH THE AERONAUTICS COMMISSION WILL HAVE TO BE COVERED BY AN INSURANCE POLICY GIVING COVERAGE THROUGH THE SPRAY SEASON AND UNTIL NOVEMBER 1 OF THE CURRENT YEAR.

OPERATION "HOTFOOT"

The following article is reprinted from the October issue of Flying Safety, a United States Air Force publication. The Tech Order Warnings are the result of years of experience with wheel and brake assemblies of jet aircraft and may be of great interest to all pilots operating turbine aircraft.

"A B-66 landed with a hot wheel assembly after completing takeoff and landing tests. A mixture of carbon dioxide and water was used to extinguish a fire which developed in the wheel brake area. Six minutes later, after the fire was put out, the wheel exploded and killed a man who was standing 69 feet away. In another case, a Navy aircraft made an emergency landing and taxied to the parking area. Water fog was used to cool a smoking tire. While the wheel was being sprayed, the hub blew off and traveled 75 yards.

"These two examples could be multiplied endlessly but would illustrate the point no better. Hot brakes and tires are extremely dangerous. Pilots and maintenance personel who taxi and handle aircraft are urged to review T.O. 4B-1-1 on the "Use of Landing Wheel Brakes."

"The T.O. states, 'the fundamental purpose of brakes is to retard motion by transforming mechanical energy into heat energy through friction . . . Repeated, excessive application of brakes without allowing sufficient time for cooling between applications will cause increased temperatures to dangerous degrees, which will result in complete breakdown of the brake structure, failure of brake drum and wheel structure, blowing of tires and in extreme cases, the complete wheel and brake installations are destroyed by fire. This also applied to excessively short stops from high rates of speed and dragging brakes for any appreciable distance while taxiing at slow speeds.

"The T.O. gives this warning: No attempt should be made to cool an overheated wheel and tire assembly with CO2 water spray or foam, because such practice may cause the assembly to fail with explosive force. Unless a fire definitely exists, overheated wheels and brakes should be cooled by means of an airblast from any source available. . . If a fire definitely exists, the wheel should be approached from the front or rear in the plane of the wheel rotation . . . The area extending 300 feet to the side of the wheel also should be kept clear for a reasonable length of time after the fire has been extinguished.

"Here is an abstract of some of the main points from T.O. 4B-1-1:

1. Immediately after landing or whenever there is considerable lift on the wings, extreme care should be used during any brake applications to prevent skidding the tires and causing flat spots. Proper traction cannot be expected until the tires are carrying heavy loads. If maximum braking is required after touchdown, lift should first be decreased as much as possible by raising the flaps and dropping the nose (on tricycle gear aircraft) before applying brakes.

2. If the wheels are left down in the slipstream, at least 15 minutes should be allowed between landings to allow adequate time for cooling between brake applications.

3. If the wheels are retracted, at least 30 minutes should elapse between landings to allow time for cooling between brake applications.

4. If a brake malfunction is suspected or if the brakes are used excessively and are in a heated condition, the aircraft should be maneuvered off the active runway and stopped.

5. An aircraft will not be brought into a crowded parking area after the brakes have been used excessively for any emergency stop.

6. Parking brakes should not be set while the brakes and wheels are in a heated condition.

7. Do NOT drag the brakes while taxiing. Use them as little and as lightly as possible for turning."

20 OPERATIONAL SAFETY RULES FOR GENERAL AVIATION PILOTS"

(Would Prevent 90% of the Accidents)

1. **CHECK OUT**—Never attempt to operate an aircraft unless you have been checked out at least 1 hour on the ground familiarizing yourself with controls and recommended operating limitations and at least 10 regular landings and take-offs, 2 cross wind landings and take-offs (crosswind not greater than 20% of stall speed) and 2 simulated short field take-offs and landings, **all with instructor well qualified in this model.**
2. **PRE FLIGHT INSPECTION**—Never start engine until "walk around" preflight is completed, including fuel contamination check from under engine and wing tank quick drain in a transparent vial and it is established, by "double check" that fuel quantity is sufficient for intended flight plus 15 minutes for warm up and take-off and 45 minutes at destination.
3. **VIGILANCE**—Never occupy any area on the ground or in the air without "double checking" for possible existing or potential hazards.
4. **CONTROLS AND SYSTEMS**—Never start engine, start take-off or landing until you have "double checked" your memory against a **written check list.** (If retractable gear—never raise flaps after landing until well clear of the active runway, and only after "double checking" the control you are activating.)
5. **WEATHER**—Never take off without pre-flight weather study and the establishment of an alternate escape route to good weather.
6. **WEATHER**—Never get even close to losing good "ground reference control." When ceiling enroute lowers to 1,000 feet or visibility lowers to 5 miles, plan to retreat to open alternate—execute retreat when ceiling goes down to 800 feet or when visibility becomes less than 3 miles. (Unless current and qualifield for I.F.R.)
7. **WEATHER**—Never operate "on top" except over widely scattered clouds and then only provided there is at least 2,000 feet from ground to cloud base. (Unless current and qualified for I.F.R).
8. **WEATHER-NIGHT**—Never operate at night unless assured of 2,000 feet ceiling and 5 miles visibility and assured of no frontal or ground fog conditions. (Unless current and qualified for I.F.R.)
9. **SPEED/STALL CONTROL**—Never, during landing "flare out" or after initial take-off, allow airspeed to drop below 120% of stall speed unless wheels are within 3 feet of the runway and never below 140% of stall speed during climb out or landing approach.
10. **LOW FLIGHT**—Never operate at an altitude less than 500 feet above the highest obstruction (2,000 feet in mountain area) except on straight climb out from take-off or straight in approach to landing.
11. **TAKE-OFF AND LANDING AREA**—Never take-off or land except at a designated airport, and then only provided runway lengths allow a 80% margin for contingencies over and above those minimum requirements shown in the manufacturer's operations manual and then add 200 feet when using a sod runway.
12. **LANDING AND TAKE-OFF**—Never fail to abort take-off if not "airborne" in first ½ of runway, and when landing "go around" if not "on" in first 1/3 of runway.
13. **LANDING**—Never relax control 'till the wheels have ceased to roll.
14. **LANDING**—Never land on wet grass (about same traction as ice) unless runway length double manufacturer's minimum requirement, and normal landing made in first 1/4 of runway.
15. **WIND-OPERATIONAL LIMITS**—Never attempt operation when surface wind velocity, including peak gusts, exceeds 40% of stall speed on high wing aircraft, or 50% of stall speed on low wing aircraft, unless outside ground assistance is used during turning and taxiing.
16. **WIND-PROP OR JET BLAST**—Never get closer than 1,000 feet from "blast" end of powerful aircraft, and then only when headed into remaining blast effect.
17. **WIND-CROSSWIND LIMITS**—Never attempt take-off or landing when 90° cross surface winds exceed 20% of stall speed or when 45° surface cross wind exceeds 30% of stall speed.
18. **NIGHT**—Never operate at night unless qualified under C.A.R. and then only from well lighted, night approved airports, and using steeper approach attitude.
19. **PHYSICAL CONDITION**—Never operate an aircraft unless you have "12 hours from bottle to throttle," or when extremely fatigued.
20. **STARTING ENGINE**—Never, never attempt to hand start an aircraft unless qualified person at controls or, in an emergency, unless **all wheels are securely blocked and strong, tight and secure** tiedowns are affixed to both wings and tail.

CLARIFICATION OF AIRCRAFT LIMITATIONS FOR STUDENT PILOTS

Section 43 55 of Part 43 of the Civil Air Regulations provides that a student shall not pilot an aircraft other than that of the category, class and type which has been endorsed on his student pilot certificate by a flight instructor. As used in this regulation, the word "type" was intended to mean the make and model of the aircraft which a flight instructor had found the student competent to operate in solo flight. It was not intended that such an endorsement would authorize the student pilot to operate any other make and model of aircraft in solo flight, regardless of its similarity to the aircraft covered by the endorsement.

BOEING OFFERS 1961 DELIVERY ON 735

Thursday, October 22, 1959

AVIATION DAILY

Boeing Airplane Co. yesterday announced it is offering its swing-tail Model 735 cargo jet (DAILY, Aug. 5, 27) airplane powered with four Pratt & Whitney JT3D turbofan engines for delivery in 1961. The jet freighter is based on the 707 Intercontinental airliner and "will be capable of carrying 100,000 lbs. of cargo aross the United States nonstop in five hours flight time."

Boeing said the 735 would transport cargo for as low as 3c a ton-mile. This compares with the 6c to 7c a ton-mile for the best piston-powered cargo aircraft and the calculated 4c a ton-mile for the latest turboprop air-freighters, Boeing said.

J. B. Connelly, VP and general manager of Boeing's Transport Division, said the 735 is part of "a modern integrated terminal-to-terminal cargo system under development" by Boeing. System includes ground transporters, special pallets, preloaded containers and other equipment for rapid loading and unloading.

With 100,000 lbs. of freight, the 735 range will be more than 3,000 miles. Air conditioned and pressurized cargo space totals 9,000 cu. ft. Operating 10 hrs. a day, the 735 could carry 26 million lbs. more cargo across the Atlantic in a year than a Turboprop plane of the same cargo category, Connelly said.

The 735 would have three side cargo doors in addition to the swing-tail loading opening. Loading would be done with lift-bed tracks. Boeing also has a new all-cargo design in progress with deliveries possible in four to six years

---

PILLS 'N PILOTS—AGAIN!

It's the red nose, cold-in-the-head season again, and time to do a re-run on the family medicine cabinet. In this age of miracle drugs, there are very few ailments for which these wonder medicines are not prescribed or sold over drug counters. But there are side effects to many of these medical boons, side effects that are harmful to pilots.

Several months ago Flight Safety Foundation reviewed a group of so-called wonder drugs and this seems a good time to review that review and include an additional item.

Antihistamines

Most do a better job of making you drowsy than actual sleeping pills! Tests made by the Air University School of Medicine showed that "in their ability to produce drowsiness, these antihistamines are as effective an hour and a half to two hours after taking, as any of the sedatives. . . ." One aircraft accident was attributed to a pilot's use of cold-combating drugs; he had taken then against the advice of the flight surgeon he had consulted the night prior to his flight.

Amphetamines

Pilot-use of these also is considered dangerous. Commonly known as pep pills, they often are taken by people who want to boost their normal capacity. They are supposed to make a person more lively, more talkative and possessed of more self-confidence. They tend to decrease the appetite as well, and so might be used as a "help" in a weight-reducing program. Unfortunately, they also impair judgment and are apt to cause recklessness. If the amphetamines are taken over a long period of time or if a large dose is taken at one time, they can make you see "that little man who is not there," or even blackout completely. Some nasal sprays used to alleviate the stuffiness of head colds or hay fever, etc., contain amphetamamine in small quantity.

Tranquilizers

The opposite of pep pills, these are supposed to produce a calming effect, to replace worry and anxieties with a pleasant feeling of well-being. This they may do, but, as with the antihistamines, it is the secondary effects that make them incompatible with flying safety. Here are a few:

Chloropromazine (Thorazine): These are useful in the treatment of emotional and mental disturbances and as an aid to anesthesia. Their side effects, i.e., changes in blood pressure and heart rate, blurred vision, dizziness, fainting, lack of coordination, nasal stuffiness, fatigue, stomach upset and sensitization of the skin to sunlight, however, are in conflict with pilot safety.

Promazine (Sparine) is similar to Chloropromazine and shares many of its side effects.

Reserpine (Rauvolfia, serpentina, rauwiloid, serpasil, reserpoid): Used in the treatment of high blood pressure and also in the treatment of emotional disorders. Their side effects are similar to those of Chloropromazine except that they do not blur vision or sensitize skin.

Meprobramate (Miltown, Equanil): The most widely used tranquilizers, these are known to produce drowsiness, muscular weakness, diarrhea, and skin reactions. In some cases they actually make the person taking them more tense and anxious.

One fact holds true for all medicines of the tranquilizer group: they interfere with the individual's ability to react. While they may be all right in calming an over-active person, they are not beneficial when the ability to react is important, as in piloting an aircraft.

In military aviation, tranquilizers, barbiturates and antihistamines are prohibited for those on flying status because they act directly or indirectly on a most important part of the human—the brain. Medications such as these are not prohibited as far as aircraft passengers are concerned. In fact, several of the nation's airlines carry various antihistamines for use by those passengers requesting such. Drugs of this type undoubtedly are valuable and have a definite place, but that place is not in the pilot who is going to operate an aircraft. (Adapted in part from an article in U.S. Aviation Digest.)

TURBULENCE CAN BE ROUGH

Turbulence lies in the wake of all aircraft and its severity and its persistence depend upon several factors The dangers of wake or vortex turbulence are still unknown to many pilots. Engineering studies clearly indicate that vortex turbulence can be great enough to cause structural failure of light aircraft; however, vortices of such destructive magnitude are generally associated with aircraft of the larger civil transport or military types.

Reports by Douglas and a National Advisory Committee for Aeronautics Technical Note discount the effect of the "prop wash" or the wake due to jet exhaust, at a distance of 1 000 feet. Both assert that severe turbulence is created predominantly by wing tip vortices. The NACA study states: "The velocity distributions show no indication of a disturbance other than that produced by trailing vortices." It can be seen, therefore, that the energy produced does not depend on the type of powerplant.

A paper on this subject issued by the Beech Aircraft Corporation points out that a light aircraft at 100 mph penetrating the vortices of a large jet aircraft at 90 degrees and one mile behind recorded an acceleration of plus 2.5g's and minus 3.5g's. Other aircraft at greater speeds have measured structural loads as high as 9g's in the wake of a large jet aircraft. The Beech paper states:

1. If a small plane, flying at cruising speed, observes a jet aircraft and executes an evasive maneuver which increases the load factor to approximately its design limit, then penetration of the wake area could produce load factors in excess of the design values, with structural failure resulting.
2. If two or more aircraft are flying in formation, or close proximity, the combined effect of the wake could produce structural failures in the small aircraft."

The NACA experimented with aircraft with smoke generators at the wing tips. Using an F-51 as the vortex generator and an F-80 as the receiver, it was determined that the energy of the vortex does not lessen appreciably for 35 seconds. The highest velocity within the vortices occurred 33 seconds after their origin. Velocities then gradually decreased for 60 seconds, the longest interval measured, but the vortex still retained a relatively large amount of circulation. From this it can be seen that peak velocity can be approximately 1-½ miles behind an aircraft cruising at 180 mph. Also, that a relatively large amount of velocity will persist for three miles astern.

When a large jet aircraft climbs at approximately 420 mph, the peak turbulence is 3-½ miles in back and a relatively high degree of turbulence will exist for 7 miles. In relatively still air the turbulence can persist for several minutes or long after the aircraft is out of sight. The study indicates that vortices can persist, theoretically, for as long as thirty minutes. The energy of the vortices depends on the ratio of aircraft weight to the wing span and the speed, being directly proportional to the former and inversely proportional to the latter.

A recent paper on this subject, published January 1, 1957, by the Beech Aircraft Corporation, is "Evaluation Report—Effect of Wing Tip Vortices and Sonic Shock on Army Aircraft in Flight." Beech participated in tests at Eglin Air Force Base, Florida. The report is based on observations, comments of military personnel, and oscillograph test data. Its conclusion carries the following:

> "Negative load factors higher than the minimum ultimate design requirements for Normal Category personal aircraft can reasonably be expected. . ."

In summary, all tests and theory to date indicate that structural failure can be anticipated in light aircraft upon penetration of the vortices behind larger civil transports and military aircraft.

The variations and reversals of forces encountered when traversing a pair of vortices is of great scientific interest. The forces are both large and sudden.

When an airplane runs squarely through a pair of vortices at their diameters the loads imposed are up, down, down and up, in that order. The total distance from entering one vortex to leaving its mate is short and would be traversed by a 120 mph airplane in less than two seconds. The initial abrupt and powerful up current might normally be met by down elevator. Then, within a fraction of a second a sharp reversal of load occurs, then again in the same brief interval, another reversal.

Pilot reaction during this short period can only be surmised. But if the elevator control were moved forward upon hitting the first up draft, as it might be, the following forces would be greatly intensified. This secondary shock, under these conditions, can be enough to destroy civil aircraft which are designed to accepted standards for normal category aircraft.

LONG WALK

After completing its landing, roll, the large twin engine airliner taxied to the far side of the field at LaGuardia Airport on instructions from the control tower. The pilot held his position waiting for clearance to cross a runway before taxiing to the terminal.

Several minutes after stopping, the pilot heard the planes hydraulic system operating. He checked out of the cockpit window and noted the plane's loading ramp being lowered. He immediately dispatched the co-pilot to go back to the passenger cabin to inform the pretty new stewardess that this was not the passenger terminal Quite flustered and embarrassed the stewardess quickly pressed a button, retracted the ramp, and the plane taxied across to the airport.

Everything seemed quite uneventful until about 30 minutes after the airliner had parked at the ramp when a little old lady breathlessly hurried up to the airlines ticket counter and complained she didn't understand why she was put off the plane way across the field when everyone else received a ride right to the terminal building.

FOR SALE: Cessna 195 B 1952, 300 Jacobs with spare 275 Jacobs—rotating beacon—ext. Power plug—reupholstered—auto pilot—wheel pants—LTRA-6 with omnimeter and localiser—ADF and standby VHF transmitter—fresh license—sell reasonable or trade for late model PA-18. C. E. Ullman, 43 Nimitz Drive, Billings, Phone AL 9-6206.

WANTED TO BUY: Piper PA. 12 Super Cruiser or Super Cub. C. W. Hoyt, Eureka, Montana. Phone 5142.

FOR SALE: Aeronca Chief. 65 HP-60 hours STOH-600 T.T. Licensed until 8/27/60. New windshield, new upholstery, good fabric. $1,050. Dr. J. L. Cromwell, Box 420, Livingston, Montana.

FOR SALE: 1943 Piper J-3. New license Oct. 59; 1446 hours; $900. Kathleen Luck, 821 N. Meade Ave., Glendive, Montana.

FOR SALE: P. A. 12 Piper Cruiser. 115 H. P. Ly. with two position prop. Also a wood prop; landing lights; one pair of snow skis; two-way radio; fabric good, always hangared. TT 772 hrs. $2,200. David A. Wall, Phone Export 2-4322, Wolf Point, Montana.
FOR SALE: 1959 Cessna 140-A. Write to Roger A. Dahl, Fort Benton, Montana or call 476.

FOR SALE: 1955 Tri Pacer, Super Custom; excellent condition; complete gyro panel; VHF 11 crystal trans. and rec.; fiberglass wings and wheel pants; blue and white with orange day-glo nose and tail, $4,500. Alex Johnson, owner; see at Severson's, Great Falls Airport.

FOR SALE: 1954 Cessna 180; 1948 Aeronca Sedan; 1948 PA-11; 1946 J-3; Stearman Sprayer. Pondera Flying Service, Inc., Box 221, Conrad, Montana, Phone CR 8-3641.

FOR SALE: Piper PA-11, C-85 Fiberglassed, new license and top overhaul. Metal prop. 1600 TT. Less than 500 SMOH. $2,350. David H. McCautey, Box 604, Dillon, Montana. Ph. Mutual 3-2764.

FOR SALE: 1950 Piper PA-18-105. TT 1160. A&E 80 SMOH engine complete recover 1959, new windshield, new headliner, new tires, complete electric, landing lite, and with 55 Model paint scheme. Lic. 3/15/60; $2,995. Boles Aviation Service, Hardin, Montana.

FOR SALE: Stearman National Hi Lift. National wings and center section. Transland 228 gal tank, Pickett Hi Density pump, trailing edge booms. Will sell less engine, or will install 450 P. W. Zero time and up, or with 300 Lycoming, constant speed. Will take trades. This unit has under 5 hours spraying time and always hangared. Boles Aviation Service, Hardin, Montana.

FOR SALE: Damaged 1947 Ercoupe. Cont. 85 H. P. 20 hours since major. Full Electrical. Full Panel VHF Radio with MDF Loop. This is a nice shop job for build up. Price $800. Also have Cont-90 8-F 200 since major removed from PA-11. Price $425. Boles Aviation Service, Hardin, Montana.

QUARTERLY INSPECTION ITINERARY

City	Airport	Dist. Off.	Jan.	Feb.	March
Big Timber	Municipal	GSOO-21	27		
Billings	Municipal	GSOO-23	4-11-18-25	1-8-15-29	7-14-21-28
Bozeman	Gallatin Field	GSOO-10	13	17	16
Butte	Municipal	GSDO-10		16	
Glasgow	Municipal	GSDO-21	13	10	9
Glendive	Municipal	GSDO-23	20	17	16
Great Falls	International	GSDO-10	6*-7**	10*-11**	9*-10**
Havre	City-County	GSDO-10		9	
Helena	Municipal	GSDO-10	4-11-18	1-15-29	7-14-28
Kalispell	Flathead County	GSDO-10	26		22
Lewistown	Municipal	GSDO-23		24	
Miles City	Municipal	GSDO-21	21	18	17
Missoula	County	GSDO-10	27	24	23
Plentywood	City-County	GSDO-21	14		10
Wolf Point	Anderson & Mun.	GSDO-23		11	

*Written Only
**Flight Tests Only

U. S. POSTAGE
PAID
HELENA, MONT.
Permit No. 2

MONTANA AERONAUTICS COMMISSION
ORO Y PLATA

News Letter

P. O. Box 1698
Helena, Montana

Mrs. Loretta B. Peck
School of Mines
Butte, Montana